

5/24/08

upper part of the paddled plate 4 thereof is situated above sea level SL as can be seen in Fig 3 ~~and Fig 8~~. By virtue of this disposition it is possible to utilize the energy of the wave approaching the paddle plate not only above sea level but also below.

In contrast to the known system described in US 5084630, where the energy of a wave broken by the paddle is not consumed fully, as the wave continues to move freely, in the present invention all paddle units are arranged in series. By virtue of this arrangement, the energy of a wave, after it has been broken by a leading paddle unit, will be consumed by a successive paddle unit.

Due to this arrangement the energy of approaching waves is consumed the in most efficient way.

With reference to Fig 1 and Fig 2 one can see different stages of a pivotal moving paddle driven by a wave entering the system. The piston rods 12 move inside hydraulic cylinders 1, with the paddles motion. In the forward paddle motions the bi-directional piston rods press oil into the first accumulator via pipes 8 and 10 and in the backward paddles motion the bi-directional piston rods press oil via pipes 9 and 11 to the second accumulator. SF is the sea floor and SL is the sea level.

In practice for a sea floor depth of 3m and a wave height of 1m (defined as: 0.5m above sea level and 0.5m below sea level) the following paddle dimensions may be recommended: the length of the paddle rod can be 5.5m, the height of the paddle plate can be 0.5m-3m, the width of the paddle plate can be 2m, and the distance D can be 1m. If the dimensions are given as above, the distance between two paddle units belonging to the same system should be 1m – 1.5m.

With reference to Fig 3, the system in accordance with the present invention comprises a support structure 7 consisting of legs 6 carrying an upper frame 5. The legs are anchored in the sea floor. The paddle rod 3 hangs on the upper frame. The Fig 3 shows that part of the paddled plate is located above the sea level SL and part below.

Now with reference to Figs 1,2,4 it will be explained how the pivotal movement of the paddle rods, driven by sea waves is transformed into energy: